A p-channel TFT is used for an EL driving TFT 722. The EL driving TFT 722 in this embodiment is of single gate structure but it may have the double gate structure or the triple gate structure.

A wiring line 706 is a source wiring line of the EL driving TFT (corresponds to a current supply line). A wiring line 707 is an electrode that is laid on a pixel electrode 710 of the EL driving TFT to be electrically connected to the pixel electrode 710.

The pixel electrode 710 is formed of a transparent conductive film and serves as an anode of an EL element. The transparent conductive film is obtained from a compound of indium oxide and tin oxide or a compound of indium oxide and zinc oxide, or from zinc oxide, tin oxide, or indium oxide alone. The transparent conductive film may be doped with gallium. The pixel electrode 710 is formed on a flat interlayer insulating film 711 before forming the above wiring lines. In this embodiment, the film 711 is a planarization film made of resin and it is very important to level the level differences caused by the TFTs with the planarization film 711. An EL layer to be formed later is so thin that the existence of level differences can cause light emission defect. Accordingly the surface has to be leveled before forming the pixel electrode so that the EL layer is formed on as flat a surface as possible.

After the wiring lines 701 to 707 are formed, a bank 712 is formed as shown in Fig. 16. The bank 712 is formed by patterning an insulating film containing silicon, or an organic resin film, which has a thickness of 100 to 400 nm.

Since the bank 712 is an insulating film, care must be taken not to cause static breakdown of the element during film formation. In this embodiment, carbon particles or metal particles are added to the insulating film that is to serve as the material of the bank 712, thereby reducing the resistivity and thus avoiding generation of electrostatic.

The amount of carbon particles or metal particles to be added is adjusted such that the resistivity is reduced to 1×10^6 to 1×10^{12} Ωm (preferably 1×10^8 to 1×10^{10} Ωm).

An EL layer 713 is formed on the pixel electrode 710. Although only one pixel is shown in Fig. 16, formed in this embodiment are EL layers for red light (R), EL layers for green light (G), and EL layers for blue light (B). This embodiment uses for the EL layer 713 a low molecular weight organic EL material, which is formed into a film by evaporation. Specifically, the EL layer 713 has a laminate structure in which a copper phthalocyanine (CuPc) film with a thickness of 20 nm is formed as a hole injection layer 713a and a tris-8-quinolinolate aluminum complex (Alq_3) film with a thickness of 70 nm is formed as a light emitting layer 713b on the hole injection layer. The color of emitted light can be controlled by choosing which fluorescent pigment, such as quinacridon, perylene, or DCM1, is used to dope Alq_3.

The material given in the above is merely an example of organic EL materials that can be used for the EL layer and there is no need to be limited thereto. The EL layer (meaning a layer for light emission and for carrier transportation to emit light) may have a charge carrier transporting layer or a charge carrier injection layer, or both, in addition to the light emitting layer. For instance, a high molecular weight organic EL material may be employed for the EL layer though used in the example shown in this embodiment is a low molecular weight organic EL material. Inorganic materials such as silicon carbide may be used for the charge carrier transporting layer and the charge carrier injection layer. Known organic EL materials and known inorganic materials can be used.

On the EL layer 713, a cathode 714 is formed from a conductive film. In this embodiment, an alloy film of aluminum and lithium is used as the conductive film. A known MgAg film (an alloy film of magnesium and silver) may of course be used. An

appropriate cathode material is a conductive film made of an element belonging to Group 1 or 2 in the periodic table, or a conductive film doped with a Group 1 or 2 element.

Formation of the cathode 714 completes an EL element 719. The EL element 719 here means a capacitor comprising the pixel electrode (anode) 710, the EL layer 713, and the cathode 714.

It is effective to provide a passivation film 716 so as to cover the EL element 719 completely. The passivation film 716 is an insulating film, examples of which include a carbon film, a silicon nitride film, and a silicon oxynitride film. A single layer or a laminate of these insulating films is used for the passivation film.

It is preferable to use as the passivation film a film that can cover a wide area. A carbon film, a DLC (diamond-like carbon) film, in particular, is effective. The DLC film can be formed in a temperature range between room temperature and 100°C, and therefore is easy to form above the EL layer 713 that has a low heat resistance. Furthermore, the DLC film is highly effective in blocking oxygen and can prevent oxidization of the EL layer 713. Therefore the EL layer 713 can be saved from being oxidized before a sealing step to be carried out subsequently.

A seal 717 is provided on the passivation film 716 and a cover member 718 is bonded. A UV-curable resin can be used as the seal 717. It is effective to place a substance having a hygroscopic effect or a substance having an antioxidizing effect inside the seal 717. The cover member 718 used in this embodiment is a glass substrate, a quartz substrate, or a plastic substrate (including a plastic film) with carbon films (preferably diamond-like carbon films) formed on its front and back.

Thus completed is an EL display device structured as shown in Fig. 16. It is effective to use a multi-chamber type (or in-line type) film forming apparatus to successively process the steps subsequent to formation of the bank 712 up through